



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/441,003	11/16/1999	JOHN ABEDOR	112008-0027C	3749
24267	7590	07/14/2004	EXAMINER	
CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210			NGUYEN, JOHN QUOC	
		ART UNIT		PAPER NUMBER
		3654		

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

GT

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/441,003	ABEDOR ET AL.
	Examiner John Q. Nguyen	Art Unit 3654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 16 June 2004.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 43-50 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 43-50 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

Applicant's election with traverse of Group I in Paper No. 17 has been acknowledged.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 43 and 47 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Said subject matter is "mathematical model of dynamics of said tape system that affect rotation of said tape reel".

Claims 43-50 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 43 and 47, it is not clear what kind of "intervals" (lines 4 and 12) is involved (time? Distance? Predetermined?). Are the intervals on lines 4 and 12 the same or different?

If the length of tape is already measured, it is not clear what is being determined (claim 43, line 6).

On line 6 of claim 43, "determining...tape" is not clear: how many intervals are involved? Of all the intervals involved, it is not clear why there is only one measured length of tape.

If the minimum tape pack radius is supposedly known, then what is the purpose of "estimating for selected intervals ... said amount of tape ... on said tape reel defining said minimum tape pack radius"? What are the "selected intervals"? How are the intervals on line 12 of claim 43 related to the intervals on line 4?

In claim 43, what is the relationship, if any, between the intervals, the sequential measurements, and the "a measured length of tape" on line 6?

The following are not clear: "said tape reel defining a minimum tape pack radius" (claim 43, line 2).

All claims should be revised carefully to correct all other deficiencies similar to the ones noted above.

Claims 43-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Hermanns et al (US 4964582) and Macchia (US 4399953).

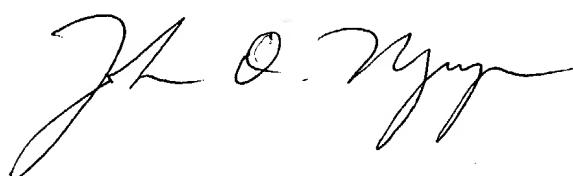
The admitted prior art discussed on pages 2-3 of the specification discloses substantially all the claimed features including a tape system having a supply reel, a take-up reel, a capstan, tension arms, a servo system. It is also stated that "the tape pack radius is calculated from measurements of the angular positions of the reels and the capstan." and that filters have also been used. It is deemed inherent that tension arm measurements ("fourth angular positions") are included in the calculation of the amount of tape on the reel since tension arms change the length of the tape paths; this is old and well known in the art and Official Notice of such is hereby taken. Kalman filters for minimizing error variances in predictive computations are old and well known as discussed by Macchia (see column 5, lines 30-45). Furthermore, Hermanns et al.

discloses a system utilizing Kalman filters in the calculation of bobbin diameters in a winding apparatus (note column 4, lines 17-27, column 6, lines 17-20, column 7, lines 1-68, column 10, lines 41-63). In view of the prior art as a whole, it would have been obvious to a person having ordinary skill in the art to provide the admitted prior art apparatus with one or more Kalman filters to minimize errors in the way that Kalman filters are known for as taught by Macchia and Hermanns et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Q. Nguyen whose telephone number is (703) 308-2689. The examiner can normally be reached on Monday-Friday from 6:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katherine Matecki, can be reached on (703) 308-2688. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-4177.



John Q. Nguyen  
Primary Examiner  
Art Unit 3654